Claims Amendments

Please cancel claims 27 and 37.

1-17 (Canceled)

18. (Previously presented) A process for forming nanostructures comprising the step of applying on localised regions of a smooth thin film of rotaxanes or catenanes an external mechanical perturbation with preset magnitude thereby said film undergoes a collective morphological transformation and nanostructures are formed by selforganisation of said molecules, said nanostructures having preset number, size, interspacing and shape.

19. (Previously presented) A process according to claim 18, wherein said nanostructures are in the form of dots when said regions are one-dimensional and said nanostructures are in the form of strips when said regions are two-dimensional.

20. (Previously presented) A process according to claim 19, wherein said dots are formed with a density, inter-dot distance or pitch and size controlled by presetting a thickness of said thin film.

21. (Previously presented) A process according to claim 19, wherein said dots are formed in a number controlled by presetting a length of said regions.

22. (Previously presented) A process according to claim 18, wherein the nanostructures are organised in the form of arrays of nanostructures.

23. (Previously presented) A process according to claim 19, wherein said dots are formed and used to code and store information with areal densities of 1-1000 Gbpsi.

24. (Canceled)

25. (Previously presented) A process according to claim 18, wherein said perturbation is applied with a scanning probe microscope (SPM).

26. (Previously presented) A process according to claim 18, wherein the perturbation is applied with mechanical devices, millipedes or actuators able to produce multiple local perturbations.

27. (Canceled).

28. (Previously presented) A process according to claim 18, wherein said perturbation is applied with a rigid stamp or with a flexible stamp with which a load force is applied on said film regions, said load force being in the range of 0.1 to 100 kg/cm^2.

29. (Previously presented) A process according to claim 18, wherein said morphological transformation of said thin film is obtained by wetting/dewetting transition, dewetting introducing spatial correlation.

30. (Previously presented) A process according to claim 18, wherein said molecules are selected from the group consisting of rotaxanes, rotaxanes terminated with optically /electrically active groups and conjugated stoppers.

31. (Previously presented) A process according to claim 18, wherein said molecules are selected from the class of catenanes.

32. (Canceled)

33. (Canceled)

34. (Previously presented) A process according to claim 18, wherein said thin film is deposited on a substrate or is grown on a substrate form solution, or from vapour phase, or from reactive precursors, or by sublimation.

35. (Previously presented) A process according to claim 29, wherein said morphological transformation of said film is obtained by spinodal dewetting, crystallisation or formation of intermediate metastable structures.

36. (Previously presented) A process according to claim 30, wherein said rataxane is rotaxane 3.

37 (Canceled)

38. (Previously presented) A process for forming nanostructures comprising the step of applying on localised regions of a smooth thin film of rotaxanes or catenanes an external perturbation with preset magnitude thereby said film undergoes a collective morphological transformation and nanostructures are formed by selforganisation of said molecules, said nanostructures having preset number, size, interspacing and shape, the external perturbation being a mechanical perturbation applied with a scanning probe microscope (SPM) or with mechanical devices, millipedes or actuators able to produce multiple local perturbations.